TRANSLATION OF THE ARTICLE 19 AMENDMENTS TO THE CLAIMS

AMENDMENT UNDER ARTICLE 19

16.   (Amended) An azimuth measurement device comprising:

2- or 3-axis geomagnetism detection means for detecting the geomagnetism;

output data acquisition means for acquiring several times or more, either the 2-axis output data at the time when the direction of said geomagnetism detection means changes while keeping said 2-axis detecting directions on a predetermined plane or the 3-axis output data at the time when the direction of said geomagnetism detection means changes in the three-dimensional space;

reference point estimation means for estimating the coordinates of the reference point by a statistical method so that the dispersion of the distances from selected 2- or 3-axis output data group to the reference point may be minimized; said reference point estimation means also selecting said 2- or 3-axis output data on the basis of predetermined measurement parameters, and also determining a reference point either on the two-dimensional coordinate composed of said selected 2-axis output data or on the three-dimensional coordinates composed of said selected 3-axis output data;;

offset information calculation means for calculating the offset information for the output data of said geomagnetism detection means on the basis of a plurality of reference points estimated by said reference

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point estimation means;

azimuth calculation means for calculating an azimuth from said output data and said offset information; and

reliability information calculation means for
5 calculating the reliability information of said offset information according to calculation parameters for calculating the reliability information of predetermined offset information, on the basis of at least one of said plural reference points.

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17.   (Amended) An azimuth measurement device comprising:

2- or 3-axis geomagnetism detection means for detecting the geomagnetism;

output data acquisition means for acquiring several
15 times or more, either the 2-axis output data at the time when the direction of said geomagnetism detection means changes while keeping said 2-axis detecting directions on a predetermined plane or the 3-axis output data at the time when the direction of said geomagnetism detection means
20 changes in the three-dimensional space;

estimating the coordinates of the reference point by a statistical method so that the dispersion of the distances from selected 2- or 3-axis output data group to the reference point may be minimized; said reference point
25 estimation means also

selecting said 2- or 3-axis output data on the basis of predetermined measurement parameters, and also

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determining a reference point either on the
two-dimensional coordinate composed of said selected
2-axis output data or on the three-dimensional coordinates
composed of said selected 3-axis output data;

5   offset information calculation means for
calculating the offset information for the output data of
said geomagnetism detection means on the basis of a
plurality of reference points estimated by said reference
point estimation means;

10   azimuth calculation means for calculating an azimuth
from said output data and said offset information; and
     reliability information calculation means for
calculating the reliability information of said offset
information according to calculation parameters for
15 calculating the reliability information of predetermined
offset information, on the basis of at least one of said
2- or 3-axis output data group and said plural reference
points,

     wherein said offset information calculation means
20 compares said reliability information with a acceptance
threshold value to evaluate whether or not said offset
information is to be adopted as the offset information to
be used for the calculation of the azimuth by said azimuth
calculation means.

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33.   (Amended) An azimuth measurement method comprising:
     the step of acquiring, by using 2- or 3-axis

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geomagnetism detection means for detecting the geomagnetism several times or more, either the 2-axis output data at the time when the direction of said geomagnetism detection means changes while keeping said

5   2-axis detecting directions on a predetermined plane or the 3-axis output data at the time when the direction of said geomagnetism detection means changes in the three-dimensional space;

the step of selecting said 2- or 3-axis output data

10   on the basis of predetermined measurement parameters;

the step of determining a reference point either on the two-dimensional coordinate composed of said selected 2-axis output data or on the three-dimensional coordinates composed of said selected 3-axis output data, thereby to

15   estimate the coordinates of the reference point by a statistical method so that the dispersion of the distances from said selected 2- or 3-axis output data group to the reference point may be minimized;

the step of calculating the offset information for

20   the output data of said geomagnetism detection means on the basis of said plural reference points estimated;

the step of calculating an azimuth from said output data and said offset information; and

the step of calculating the reliability information

25   of said offset information according to calculation parameters for calculating the reliability information of predetermined offset information, on the basis of at least

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one of said plural reference points.

34.   (Amended) An azimuth measurement method comprising:

the step of acquiring, by using 2- or 3-axis geomagnetism detection means for detecting the geomagnetism several times or more, either the 2-axis output data at the time when the direction of said geomagnetism detection means changes while keeping said 2-axis detecting directions on a predetermined plane or the 3-axis output data at the time when the direction of said geomagnetism detection means changes in the three-dimensional space;

the step of selecting said 2- or 3-axis output data on the basis of predetermined measurement parameters;

the step of determining a reference point either on the two-dimensional coordinate composed of said selected 2-axis output data or on the three-dimensional coordinates composed of said selected 3-axis output data, thereby to estimate the coordinates of the reference point by a statistical method so that the dispersion of the distances from said selected 2- or 3-axis output data group to the reference point may be minimized;

the step of calculating the offset information for the output data of said geomagnetism detection means on the basis of said plural reference points estimated;

the step of calculating an azimuth from said output data and said offset information; and

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the step of calculating the reliability information of said offset information according to calculation parameters for calculating the reliability information of predetermined offset information, on the basis of at least one of said 2- or 3-axis output data group and said plural reference points,

wherein said offset information calculation step compares said reliability information with an acceptance threshold value to evaluate whether or not said reliability information is to be adopted as the offset information to be used for the calculation of the azimuth.